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P U B L I C A T I O N S
O F T H E
Astronomical Society of the Pacific.

No. 7. SAN FRANCISCO, CALIFORNIA, MARCH 29, 1890.

DIE ASTRONOMISCHE GESELLSCHAFT.*

BY DR. HEINRICH KREUTZ, ASTRONOMER IN THE OBSERVATORY OF KIEL.

The *Astronomische Gesellschaft* (Astronomical Society of Germany) was founded at Heidelberg on the 28th of August, 1863, and had its origin mainly in the necessity which was felt for providing for the systematic study and observation of the rapidly increasing number of known asteroids, with an equitable distribution of the labor among those willing to take part in the plan. The first question considered by the society was, therefore, the steps which should be taken toward computing the perturbations of the minor planets, a work on which a number of astronomers had been separately engaged since 1857, and which was now accepted as the first task of the new organization. The results of this co-operation are given in the very first publication of the society,—*Auxiliary Tables for the Computation of Special Perturbations, 1830–1864*,—which appeared in 1865.

The by-laws of the society, which were adopted in 1865, and altered in some essential particulars in 1881, contain the following statements in regard to the objects of the society:

“§ 1. The *Astronomische Gesellschaft* is an association of astronomers and friends of astronomy, having for its object the advancement of this science, particularly in such directions as require systematic co-operation.

“§ 2. It is the special aim of the society to carry on such work as will find continual application in astronomical investigations, and which is best advanced by a combination of forces and adherence to established and consistent principles.

* It is hoped to present, from time to time, in the Publications of the Astronomical Society of the Pacific, accounts of the organization, history and objects of the Astronomical Societies of the different countries, and, perhaps, of the great observatories of the world. Dr. KREUTZ has kindly consented to prepare the sketch of the German Astronomical Society which is here printed, and it is expected that accounts of other scientific organizations will follow in due course. Some of these papers are already in preparation, through the courtesy of our correspondents.

"In addition to these objects the society seeks by suitable assistance and concentration of forces to further the efforts of those who are engaged in long and important astronomical researches.

"§ 3. The society seeks to attain these ends — (1) By means of scientific meetings; (2) By uniting its working forces, and raising the means for undertaking the more important investigations in astronomy; (3) By the publication of astronomical works; (4) By the formation of collections of literary importance or otherwise of interest."

The scientific meetings mentioned in section 3 have been regularly held every other year since the organization of the society, sometimes in Germany and sometimes in other countries, as, for example, in Leiden, Stockholm, Geneva, and lastly, in 1889, in Brussels. The meetings are opened by reports on the organized work of the society; then follow miscellaneous papers on scientific subjects by the members in attendance; and, finally, the election of directors is held, in accordance with the provisions of the by-laws. The language for all business transactions is German, but it is not prescribed for the papers read before the society nor for the publications.

The other object of the society stated in section 3, to advance the science by uniting working forces and providing the funds for undertaking important astronomical researches, found its first expression in the auxiliary tables for the computation of special perturbations mentioned above; but at the second meeting of the society, at Leipzig, in 1865, a much larger project was considered. This was a plan for organizing a system of meridian circle observations according to a definite programme, which should give accurate positions of all stars down to the ninth magnitude between the limiting declinations of -2° and $+80^{\circ}$, which are found in the *Bonner Durchmusterung*. This great undertaking, in which two American observatories took part, (Cambridge, Mass., with the zone $+50^{\circ}$ to $+55^{\circ}$, and Albany, with the zone $+1^{\circ}$ to $+5^{\circ}$), is now nearly completed, and in the near future we may expect the publication of the catalogues which are based on these observations. *

* The Northern Zones were assigned as follows:

From $+80^{\circ}$ to 75°	Observatory of Kasan.
" $+75$ to 70	" Dorpat.
" $+70$ to 65	" Christiania.
" $+65$ to 60	" Helsingfors.
" $+55$ to 50	" Harvard College.
" $+50$ to 45 }	" Bonn.
" $+45$ to 40 }	

A continuation of this programme in the southern sky as far as the declination — 23° was decided upon by the society several years ago, and the work was divided among the different observatories, two of which, Washington and Cambridge, are also in America. At some of the places observations have already begun.*

In regard to the minor objects of the society, it may be mentioned that the board of directors provides for the publication of ephemerides of the variable stars, prints the annual reports of observatories and reviews of discoveries of comets and planets, and endeavors to promote co-operation in other questions which do not concern the society so directly, such as the photometric observation of the fixed stars and the definitive determination of cometary orbits.

The official organ of the society is the *Vierteljahrsschrift*, or Quarterly Journal, edited by the two secretaries, at present Professor SCHOENFELD, of Bonn, and Professor SEELIGER, of Munich. The scientific importance of this journal hardly needs to be mentioned, and the reviews of scientific literature, to which, with the affairs of the society, it is mainly devoted, must be regarded as models of their class.

The expenses which the pursuance of the objects of the society involve are covered by the fees of the members, which are fixed at an initiation fee of fifteen marks (\$3.75) and an annual contribution of the same amount. Instead of these a single payment of two hundred marks (\$50) may be made upon joining.

The third object of the society is the publication of the results of astronomical work. Up to the present time nineteen memoirs on various astronomical subjects in the most diverse branches of the science have been distributed among the members, and before long the catalogues of the extensive zone observations will be added to the number.

From + 40° to 35°	Observatory of Lund.
" + 35 to 30	" Leiden.
" + 30 to 25	" Cambridge (England).
" + 25 to 20	" Berlin.
" + 20 to 15	
" + 15 to 10	" Leipzig.
" + 10 to 5	
" + 5 to 1	" Albany.
" + 1 to -2	" Nikolaieff.

* The Southern Zones have been assigned as follows :

From - 2° to - 6°	Observatory of Strassburg.
" - 6 to - 10	" Vienna. (Private Observatory).
" - 10 to - 14	" Harvard College.
" - 14 to - 18	" Washington.
" - 18 to - 23	" Algiers.

Besides the zones, a fundamental catalogue of 303 southern stars has been constructed by Professor AUWERS from observations made for the purpose at the Observatories of the Cape of Good Hope, Madison, Wisconsin, Annapolis, Maryland, Karlsruhe, Leiden and Strassburg.

The following list will show the importance and diversity of character of the society publications :

PUBLICATIONEN DER *ASTRONOMISCHEN GESELLSCHAFT* (IN QUARTO).

1. *Hülftafeln zur Berechnung specieller Störungen, 1830–1864.* 1865.
2. LESSER, DR. OTTO. *Tafeln der Metis.* 1865.
3. WEILER, DR. A. *Ueber das Problem der drei Körper im allgemeinen und insbesondere in seiner Anwendung auf die Theorie des Mondes.* 1866.
4. HOÜEL, DR. G. J. *Tables pour la réduction du temps en parties décimales du jour.* 1866.
5. AUWERS, ARTH. *Reduction der Beobachtungen der Fundamentalsterne am Passageninstrument der Sternwarte zu Palermo in den Jahren 1803–1805 und Bestimmung der mittleren Rectascensionen für 1805.* 1866.
6. *Rechtwinklige und Polarcoordinaten des Jupiter . . . 1770–1830.* 1866.
7. AUWERS, ARTH. *Untersuchungen über veränderliche Eigenbewegungen. Zweiter Theil. Bestimmung der Elemente der Siriusbahn.* 1868.
8. SCHJELLERUP. *Genäherte Oerter der Fixsterne, von welchen in den Astronomischen Nachrichten Band 1–66 selbständige Beobachtungen angeführt sind, für die Epoche 1855.* 1867.
9. LESSER, DR. OTTO. *Tafeln der Pomona.* 1869.
10. BECKER, DR. E. *Tafeln der Amphitrite.* 1870.
11. WINNECKE, F. A. T. *Bestimmung der Parallaxe des zweiten Argelander'schen Sternes.* 1872.
12. WEILER, DR. A. *Grundzüge einer neuen Störungstheorie und deren Anwendung auf die Theorie des Mondes.* 1872.
13. SPÖRER, PROF. DR. G. *Beobachtungen der Sonnenflecken zu Andam, mit 23 Tafeln.* 1874.
14. AUWERS, A. *Fundamental-Catalog für die Zonen-Beobachtungen am nördlichen Himmel.* 1879.
15. HARTWIG, E. *Untersuchungen über die Durchmesser der Planeten Venus und Mars.* 1879.
16. OPPOLZER, PROF. THEOD. V. *Syzygien-Tafeln für den Mond nebst ausführlicher Anweisung zum Gebrauche derselben, mit 3 Tafeln.* 1881.
17. AUWERS, A. *Mittlere Oerter von 83 südlichen Sternen für 1875.0 nebst Untersuchungen über die Relationen zwischen einigen neueren Sternatalogen.* 1883.
18. ROMBERG, H. *Genäherte Oerter der Fixsterne, von welchen in den Astronomischen Nachrichten Band 67–112 selbständige Beobachtungen angeführt sind, für die Epoche 1855.* 1886.

19. CHARLIER, C. V. L. *Ueber die Anwendung der Sternphotographie zu Helligkeitsmessungen der Sterne.* 1889.

VIERTELJAHRSSCHRIFT DER *ASTRONOMISCHEN GESELLSCHAFT*
(IN OCTAVO).

Jahrgang I-XXIV, 1866-1889; also, *Supplementheft zu Jahrgang III: VON ASTEN, Neue Hülftafeln zur Reduction der in der Histoire Céleste Française enthaltenen Beobachtungen.* 1868.

Supplementheft zu Jahrgang IV: Tafeln zur Reduction von Fixsternbeobachtungen für 1726-1750. 1869.

Supplementheft zu Jahrgang XIV: BRUHNS, Catalog der Bibliothek der Astronomischen Gesellschaft. 1879.

The fourth object of the society is the collection of articles of literary and scientific interest. The most important of these collections is the library of the society, which, in the course of years, has grown into very considerable dimensions, and is kept in the Observatory at Leipzig.

At the close of the meeting at Brussels in 1889 the society numbered 340 members. Membership is not limited to any nationality, although the German is naturally the prevailing one. A person desiring to join the society must give notice of his wishes to one of the directors. The board of directors gives first a provisional decision upon the admission of the candidate, and later, at the next meeting thereafter, he is finally elected.

The board of directors consists of eight members; a president, two secretaries, a treasurer (who, according to the by-laws, must reside at Leipzig, the seat of the society), and four members without special duties. One of the latter is appointed by the president to act in his place, in case he should be absent. At every regular meeting of the society four of the directors, among them one of the secretaries, retire from office, and their places are filled by a new election. The resigning directors can, however, be re-elected. At the last meeting of the society at Brussels Professor AUWERS, who had been president for many years, expressed his desire to retire from the position, and the board of directors now consists of the following members:

Professor H. GYLDÉN, of Stockholm, President; Professor H. G. VAN DE SANDE BAKHUYZEN, of Leiden, Vice-President; Professor A. AUWERS, of Berlin; M. F. TISSERAND, of Paris; Professor E. WEISS, of Vienna; Professor E. SCHOENFELD, of Bonn, Secretary; Professor H. SEELIGER, of Munich, Secretary; Professor H. BRUNS, of Leipzig, Treasurer.

The next meeting of the society will be held at Munich in August or September, 1891, and a full attendance by our American colleagues would give them a much better idea of the nature and work of the *Astronomische Gesellschaft* than the above necessarily imperfect sketch, and would serve to bind more closely the ties which unite astronomers on both sides of the ocean.

OBSERVATORY OF KIEL, January 2, 1890.

ON THE ORBIT OF μ^2 HERCULIS (Σ 2220).

BY ARMIN O. LEUSCHNER.

[ABSTRACT.]

The duplicity of μ^1 *Herculis* was discovered by Mr. ALVAN CLARK in the year 1856, with an aperture of $7\frac{3}{4}$ inches. Since then the pair has been regularly observed by the most distinguished observers. In 1879 Dr. W. DOBERCK deduced an orbit of the companion, and arrived at a period of 54.25 years. (*Astr. Nachr.*, 2287.) Recent measures seem to point to a somewhat shorter period. At the suggestion of Mr. S. W. BURNHAM, I have deduced a new orbit, employing therefor the excellent method of Prof. v. GLASENAPP. (*Mon. Not. Royal Astr. Soc.*, March, 1889.) Neglecting a couple of observations made by Messrs. SCHIAPARELLI and BURNHAM in the years 1887 and 1889, I arrived at a period almost identical with that obtained by Dr. DOBERCK. The introduction of the last two observations, however,—the only ones since 1883 accessible to me—renders the representation of the distances by means of the position-angles rather difficult.

The following are Dr. DOBERCK's and my own elements :

ELEMENTS.	DOBERCK.	LEUSCHNER.
Ω	$57^{\circ} 57'$	$62^{\circ} 6'.7$
i	$60^{\circ} 43'$	$67^{\circ} 0'.6$
λ	$156^{\circ} 21'$	$181^{\circ} 59'.0$
e	0.3023	0.2139
a	$1''.46$	$1''.369$
T	1877.13	1880.142
P	54.25	45.39